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September 20, 1995

Commanding Officer
Attn: Mark Taylor/1861MT
SOUTHNAVFACENGCOM
2155 Eagle Drive
North Charleston, SC 29418

RE: *Final Assembly E Site Investigation Plans (Revision 1)*, NAS Memphis RCRA Facility Investigation, Millington, Tennessee; Contract N62467-89-D-0318, Comprehensive Long-Term Environmental Action Navy (CLEAN); CTO-094

Dear Sir:

EnSafe/Allen & Hoshall is pleased to submit two copies of the *Final Assembly E Site Investigation Plans (Revision 1)* for the NAS Memphis RCRA Facility Investigation. The BRAC Cleanup Team comments on the draft version of this document have been addressed and a formal Response to Comments has been included for the written comments received from the Tennessee Department of Environment and Conservation. As requested, copies of the document have been distributed as indicated on the enclosed NAS Memphis Distribution List.

If you have any questions or comments of a technical nature, please contact me or Alison Choate at 901/372-7962. Comments or questions of a contractual nature should be directed to Debra Blagg at 901/386-9344.

Sincerely,

EnSafe/Allen & Hoshall

By: Lawson M. Anderson, CHMM
Task Order Manager

Enclosures

cc: Kim Reavis/0232KR, SOUTHDIV Contracts
Debra Blagg, E/A&H Contracts
File CTO-094

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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SUPERFUND, MEMPHIS FIELD OFFICE
TECHNICAL REVIEW AND COMMENTS
RCRA FACILITY INVESTIGATION WORK PLAN - ASSEMBLY E
NAVAL AIR STATION MEMPHIS
MILLINGTON, TENNESSEE

General Comments:

The Site Specific Health and Safety Plans lack some site specific detail.

a. There are no site maps
b. Please show the three (3) work zones on the site maps
c. In some of the SSHASPs, not all of the site specific chemical hazards are noted.
d. Please indicate where certificates of training will be kept.

Response: **Vicinity maps and site maps are in each SSHASP. In addition, a generic map showing typical work zones has been prepared and inserted in each SSHASP as Figure 3. All site-specific chemical hazards have been incorporated into each SSHASP. Current Hazardous Waste and Emergency Response Operators (HAZWOPER) training certificates for E/A&H, E/A&H subcontractors, and USGS personnel anticipated to be conducting field work onsite, will be filed in the field trailer and available for review.**

Specific Comments:

1. SWMU 2, page 6, Subsection Shallow Groundwater. This section is confusing. By definition, perched groundwater is not the water table. Moreover, in the text a distinction is made between the upper and lower alluvium water bearing zones having a difference of a few feet of head, the lower layer having the lower head. This misstatement of what is being considered the "true" water table could have profound impact on future remedial activities at NAS Memphis. Please correct this statement in all subsequent SWMU Work Plan sections.

Response:

The groundwater discussion has been revised for clarity. The statement which reads "The first zone of saturation is the upper alluvium (also reported as the "perched" water table), which is generally less than 15 feet deep and probably represents the true water table in this area." has been revised as follows.

"The first zone of saturation is in the upper fine-grained part of the alluvium (referred to as the "perched" water table in the CS/VP), which generally occurs at depths less than 15 feet. The second zone occurs deeper in the sand and gravel horizon of the alluvium, but the depth and thickness of this zone is not well defined".

The relationship between the water bearing zones in the upper and lower parts of the alluvium will be examined further during the field investigation.

2. SWMU 2, page 11, Figure 3.
Is this the potentiometric surface map of the (upper/lower) (alluvium or fluvial) strata? Please clarify.

Response:

The title block of Figure 3 has been revised as "Potentiometric Map - Deeper Alluvium".

3. SWMU 2, page 13, second paragraph.
Is the "Northside" referenced here the Northside of the Base or is it the northside of the Southside Landfill? Please clarify.

Response:

This paragraph has been revised as follows:

"Contaminant concentrations identified in soil and groundwater at SWMU 2 will be compared to background soil and water concentration data from four existing monitoring well clusters, two of which (BG-02 and BG-04) were installed on the Southside of NAS Memphis (Figure 1) and two on the Northside of NAS Memphis. At a fifth background location on the Northside of NAS Memphis, a soil boring was completed and sampled, but monitoring wells were not installed due to the lack of groundwater in the loess and the unexpected thinness of the fluvial deposits at that location.

4. SWMU 2, page 14, Subsection Soil, last paragraph.
Please clarify what is meant by "at locations where waste may be present above ground.

Response:

This sentence has been revised to read: "At locations where wastes are visually identified at land surface..."

5. SWMU 2, page 18, Subsection Big Creek Drainage Canal, last paragraph.
Please add a statement that takes into account additional drainage confluences thereby clarifying the 500 feet downstream and upstream locations.

Response:

The following sentences have been added to the text: "Two additional sediment sampling locations are proposed, one downstream and one upstream from the east and west landfill boundaries. The easternmost sampling location is approximately 100 feet upstream of the canal's confluence with the drainage way along the east side of the landfill, and the westernmost sampling location is approximately 100 feet downstream of the western side of the landfill."

6. SWMU 2, page 21, Subsection 4.5 Analytical Requirement.
These DQO levels are no longer current. Please update this information in all subsequent sections to reflect that they are only analytical protocol levels.

Response:

As discussed in the August 1995 BCT Meeting, DQO has become a generic term for the type of data package the analytical laboratory provides. Therefore, the word "equivalent" has been inserted into the text after each occurrence of the words "Level I, Level II, Level III, and Level IV". For example, the text for the SWMU 2 SIP now reads "For those samples submitted for offsite laboratory analysis, Level III-equivalent DQOs will be used for 95% of the samples and Level IV-equivalent for the remaining 5%".

7. SWMU 9, page 3, Subsection 2.2 Geologic and Hydrogeologic Information, 1st paragraph.

Please reference the permeability data presented here.

Response:

The appropriate reference has been inserted in the text.

8. SWMU 9, page 8, Section 3.0 Source Characterization, 2nd paragraph.
Earlier in the text, 12" drain pipes that emptied rain water from the lagoons were said to be present. Please clarify this statement.

Response:

The 1990 RFA (ERC/EDGe) and the 1990 RFI Work Plan (SOUTHDIV, 1990) referred to these drain pipes. Discussions with NAS Memphis personnel and as-built site plans have not verified the presence of these drain pipes. NAS Memphis personnel have indicated that the water level in the lagoons remains constant, even during periods of heavy rain, which would indicate the presence of the drain pipes at an elevation near the top of the standing water in the lagoons. The existence and location of these pipes will be verified during the RFI.

9. SWMU 9, Section 4
The sampling strategy proposed for this SWMU does not properly address the problem. It is TDEC's opinion that the BCT needs to revisit this potentially very bad site.

Response:

The sampling strategy for SWMU 9 has been revised as follows:

a. **Seven surface soil samples will be collected from the banks of the lagoons and submitted for full-scan analysis for use in a preliminary evaluation of potential ecological and human health effects.**

b. **One Big Creek Drainage Canal sediment sampling location has been added near the point where the influent piping crossed the canal.**

c. **One Big Creek Drainage Canal sediment sampling location has been relocated immediately downstream of the former effluent piping.**

Refer to Figure 2 in the SWMU 9 SIP for the additional and revised sampling locations.

10. SWMU 38, page 7 Subsection 4.3 Expansion of Investigation, 1st bullet.
Where are the background samples located that are referred to here? Is this a statistical based BG soil sample(s).

Response:

Five background soil boring locations have been sampled; two on the Southside of NAS Memphis (shown on Figure 1 in the SIP for SWMU 38), and three on the Northside of NAS Memphis. As discussed in the August 1995 BCT Meeting, it would be difficult if not impossible to collect sediment samples truly representative of background concentrations due to multiple industrial influences both on and offbase. Two of the proposed sediment/soil sample locations are at the upper (northern) end of the eastern and western portions of the SWMU 38 drainage ditches (refer to Figure 2 in the SWMU 38 SIP) to provide upstream sediment/soil concentrations that are least affected by industrial influences on the Southside of NAS Memphis. Analytical results from these samples will provide a basis for comparison with other SWMU 38 sediment samples.

11. SWMU 38, Appendix B, Section 4.0, page 3.
Organo pesticides that may migrate from SWMU 59 are not noted in Table 1 as a potential chemical hazard. Please update.

Response:
Table 4-1 has been revised as requested.

12. SWMU 59
General Comment: Due to the carcinogenic nature of the contaminants present at this SWMU, (Organo Pesticides have been identified at this site at extremely high levels in surface soils), TDEC suggests that this site be considered as a candidate for early voluntary removal.

Response:
Comment has been noted and will be discussed at future BCT meetings.

13. SWMU 59, Subsection 4.3.1. Soil Screening Investigation, page 12.
TDEC suggests that additional research is needed to discover all potential carriers for the organo pesticides at this SWMU (e.g. hexachlorocyclopentatiene, carbon tetrachloride).

Response:
According to NAS Memphis personnel, employees associated with the SWMU 59 pesticide operation are no longer employed at NAS Memphis. Therefore, no definitive information is available regarding the operating procedures at SWMU 59, including what carriers were commonly used in the pesticide formulation used at the activity. During the first phase of the investigation, soil samples will be field-screened with an organic vapor detector, and submitted to an offsite laboratory for VOC analyses if a positive response is obtained with the meter. In addition, soil and groundwater samples collected from the soil borings and monitoring wells will be analyzed for FSA. These analytical data will indicate if constituents associated with pesticide carriers are present.

14. SWMU 59, Appendix C, page 11
NIOSH/OSHA recommends SCBA (Level B) when dealing with Chlordane. Please verify adequate level of protection for investigating this SWMU.

Response:
Prior to conducting field activities, air sampling for pesticides will be conducted. This will provide a baseline of the residual pesticides in the area of the storage building. Similar samples will be collected from the breathing zone of the workers during the Geoprobe/DPT activities. The samples will be analyzed and an upgrade in PPE will occur if sample results indicate the potential for worker exposure during intrusive activities.

15. SWMU 65, Section 4.
The sampling strategy proposed for this SWMU does not properly address the problem. It is TDEC's opinion that the BCT needs to revisit the sampling strategy proposed for this SWMU.

Response:
The sampling strategy has been revised to include the collection of six deeper alluvium groundwater samples during the Geoprobe/DPT phase of investigation.